

REPORT OF
MISSOURI DEPARTMENT OF TRANSPORTATION
AND HIGHWAY PATROL EMPLOYEES'
RETIREMENT SYSTEM

JUNE 30, 2012

INDEPENDENT AUDITORS' REPORT

The Board of Trustees
Missouri Department of Transportation and
Highway Patrol Employees' Retirement System

We have audited the accompanying statements of plan net assets of the Missouri Department of Transportation and Highway Patrol Employees' Retirement System (the System) as of June 30, 2012 and 2011, and the related statements of changes in plan net assets for the years then ended. These financial statements are the responsibility of the System's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with U.S. generally accepted auditing standards. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the plan net assets of the System at June 30, 2012 and 2011, and the respective changes in plan net assets for the years then ended, in conformity with U.S. generally accepted accounting principles.

U.S. generally accounting principles require that the management's discussion and analysis on pages 2 through 5 and the schedules of funding progress and employer contributions on pages 23 and 24 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with U.S. generally accepted auditing standards, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Our audits were conducted for the purpose of forming opinions on the financial statements that collectively comprise the System's financial statements as a whole. The additional financial information on pages 25 through 27 are presented for purposes of additional analysis and are not a required part of the financial statements. The additional information is the responsibility of management and was derived from and relate directly to the underlying accounting and other records used to prepare the financial statements. The additional information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with U.S. generally accepted auditing standards. In our opinion, the additional information is fairly stated in all material respects in relation to the financial statements as a whole.



November 20, 2012

MISSOURI DEPARTMENT OF TRANSPORTATION AND HIGHWAY PATROL EMPLOYEES' RETIREMENT SYSTEM

MANAGEMENT'S DISCUSSION AND ANALYSIS

The management of the Missouri Department of Transportation and Highway Patrol Employees' Retirement System (the System, or MPERS) provides this discussion and analysis of the System's financial performance for the fiscal years ended June 30, 2012 and 2011. While this discussion is intended to summarize the financial status of MPERS, readers should consider this information in conjunction with the information that is furnished in the more detailed financial statements and corresponding notes.

DESCRIPTION OF BASIC FINANCIAL STATEMENTS

As required by the Governmental Accounting Standards Board (GASB) accounting standards, this financial report consists of *Management's Discussion and Analysis* (this section), the basic financial statements (including notes to the basic financial statements), and other required supplementary information.

Financial Statements report information about MPERS, using accounting methods similar to those used by private-sector companies, by using the economic resources measurement focus and accrual basis of accounting. These statements provide both long-term and short-term information about the System's overall financial status. These statements follow this *Management's Discussion and Analysis* section:

- The *Statement of Plan Net Assets* includes all the System's assets and liabilities, with the difference between the two reported as net assets.
- The *Statement of Changes in Plan Net Assets* accounts for all the current year's additions (income) and deductions (expenses), regardless of when cash is received or paid.

Notes to the Financial Statements are included following the financial statements. The notes to the financial statements provide additional information that is essential for a full understanding of the data provided in the financial statements.

Required Supplementary Information follows the notes and further supports the information in the financial statements.

ANALYSIS OF FINANCIAL POSITION AND RESULTS OF OPERATIONS

Overall, the financial position of MPERS weakened by \$14 million, reported as the "change in net assets." This is primarily a result of the combination of lower than expected investment returns, an increase in benefit payments, and a slight decrease in contributions for the year ended June 30, 2012. The investment gains were not enough to cover the gap between benefit payments and contributions, thus resulting in a net decrease. Even with this net decrease in value in FY12, the funded status of the plan showed an increase of 3.03%, primarily due to actuarial gains.

The following schedules present summarized comparative data from the System's financial statements for the fiscal years ended June 30, 2012, 2011, and 2010. Following each schedule is a brief summary providing explanation and analyses of the major reasons for changes in the condensed financial statements.

Summarized Comparative Statements of Plan Net Assets

	As of June 30, 2012	As of June 30, 2011	As of June 30, 2010	% Change 2012/2011	% Change 2011/2010
Cash and Receivables	\$17,123,877	\$37,735,045	\$90,675,162	-55%	-58%
Investments	1,533,375,977	1,548,229,721	1,299,366,338	-1%	19%
Invested Securities Lending Collateral	57,498,405	60,133,588	44,655,544	-4%	35%
Capital Assets	2,914,845	3,287,289	3,276,526	-11%	0%
Other Assets	5,448	6,794	5,155	-20%	32%
Total Assets	\$1,610,918,552	\$1,649,392,437	\$1,437,978,725	-2%	15%
Accounts Payable	11,356,972	32,898,778	78,491,744	-65%	-58%
OPEB Obligation	459,906	364,124	276,548	26%	32%
Securities Lending Collateral	57,698,128	60,339,959	45,986,723	-4%	31%
Long-Term Debt/Payable	0	108,900	506,400	-100%	-78%
Total Liabilities	\$69,515,006	\$93,711,761	\$125,261,415	-26%	-25%
Total Net Assets	\$1,541,403,546	\$1,555,680,676	\$1,312,717,310	-1%	19%

The decrease in cash and receivables is primarily attributable to lower investment sales receivables as of June 30, 2012. Some fluctuations in this area are normal, based on investment activity. The decrease from FY10 to FY11 is also primarily attributable to lower investment sales receivables. The System was restructuring its investment portfolio to meet new target allocations, resulting in the higher receivable amount as of June 30, 2010.

The System's investments represent the main component of total assets. These investments include holdings of stock, government-sponsored enterprises, bonds, mortgages, real estate, timber, securities lending collateral, limited partnerships, and other fixed income investments. The decrease of investments from FY11 to FY12 is due to lower than expected investment returns, resulting in an outflow of cash to fund benefit payments that was larger than inflows generated by investment returns. The increase in fair value from FY10 to FY11 is due to very favorable market conditions experienced in FY11.

Capital assets decreased in FY12, due to depreciation of existing assets and only minimal purchases of new equipment during the year. The slight increase in capital assets from FY10 to FY11 can be attributed to the completion of all phases of the technology project MPERS began implementing in FY10. Costs associated with the project have been capitalized and the entire project has been fully implemented and is now depreciable.

The largest component of liabilities is securities lending collateral. This represents the amount owed for collateral to be returned as the result of securities lent. The decrease in securities lending collateral from FY11 to FY12 is due to the decrease in the fair value of investments. The increase in securities lending collateral from FY10 to FY11 is due to the increase in the fair value of investments. The corresponding securities lending collateral asset is valued at lower amounts at June 30, 2012, 2011 and 2010 due to the market value of the securities on loan being less than the par value.

The decrease in accounts payable for FY12 and FY11 is primarily attributable to lower investment purchases payable. Some fluctuations in this area are normal, based on investment activity.

The decrease in long-term debt/payable for FY12 and FY11 reflects the reduction in the obligation for the technology project, as installment payments became due.

The OPEB obligation of \$459,906 at June 30, 2012, \$364,124 at June 30, 2011, and \$276,548 at June 30, 2010 represents a liability recorded pursuant to GASB Statement No. 45, which was implemented in FY08. This liability reflects the System's provision of post-employment health care benefits through its participation in the MoDOT and MSHP Medical and Life Insurance Plan. As allowed by the GASB, this reporting requirement is being

implemented prospectively, as prior years' data is not available. This plan is an internal service fund of MoDOT; therefore, assets have not been set aside. With this, the increases from FY11 to FY12 and from FY10 to FY11 are expected.

The System's combined net assets were \$1.541 billion at June 30, 2012, a \$14 million decrease from the \$1.556 billion at June 30, 2011. This is a slight offset to the increase of the previous year, when assets increased \$243 million from the June 30, 2010 amount of \$1.313 billion to the June 30, 2011 amount of \$1.556 billion.

Summarized Comparative Statements of Changes in Plan Net Assets

	Year Ended June 30, 2012	Year Ended June 30, 2011	Year Ended June 30, 2010	% Change 2012/2011	% Change 2011/2010
Contributions	\$166,256,835	\$168,130,790	\$124,476,706	-1%	35%
Net Investment Income	42,091,564	279,612,052	166,307,054	-85%	68%
Other Income	13,760	33,141	33,145	-58%	0%
Net Additions	\$208,362,159	\$447,775,983	\$290,816,905	-53%	54%
Benefits	\$219,704,320	\$202,153,768	\$196,721,274	9%	3%
Administrative Expenses	2,934,969	2,658,849	2,512,181	10%	6%
Total Deductions	\$222,639,289	\$204,812,617	\$199,233,455	9%	3%
Change in Net Assets	(\$14,277,130)	\$242,963,366	\$91,583,450	-106%	165%
Net Assets-Beginning	1,555,680,676	1,312,717,310	1,221,133,860	19%	7%
Net Assets-Ending	\$1,541,403,546	\$1,555,680,676	\$1,312,717,310	-1%	19%

The main component of the changes in contributions to MPERS is employer contributions. In FY12 contributions decreased slightly despite an increase in contribution rates from the prior year for all active members. This was due to a large one time transfer in during FY11. In FY11, MPERS received a transfer of contributions from MOSERS in the amount of \$17,609,276, for Water Patrol member's service transferred. Also for FY11, the contribution rates increased for all active members from the FY10 rates, therefore increasing the FY11 amount of employer contributions from the FY10 amount.

Net investment income, a primary component of plan additions, resulted in income of \$42 million for FY12. The income represented a 2.75% return for the fiscal year ended June 30, 2012. In comparison, the FY11 gain of \$280 million represented an investment return of 21.8%, which outperformed the policy benchmark by 5.1%. Annual fluctuations within the broad investment markets are outside of the control of the System and are expected to fluctuate from year to year. The Board of Trustees has approved a diversified asset allocation that, over time, is expected to realize the assumed actuarial rate of investment return of 8.25%.

Benefits increased primarily due to increases in benefit rolls for all of the years shown.

CURRENTLY KNOWN FACTS AND RECENT EVENTS

Based on the June 30, 2011 actuarial valuation, the Board of Trustees approved an increase in the required state contribution, effective July 1, 2012. The rate applied to non-uniformed payroll (MoDOT, civilian patrol, and MPERS) will increase from 45.45% to 50.92%. The rate applied to uniformed patrol payroll will decrease from 58.63% to 55.03%. The increase in the non-uniformed rate is due to the decrease in number of employees by MoDOT, thus causing a significant decrease in covered payroll dollars. The decrease in the uniformed patrol rate is due to the increase in number of employees from the transfer in of Water Patrol employees, as well as the transfer in of funds from MOSERS for their liability.

Based on the June 30, 2012 actuarial valuation, the Board of Trustees approved an increase in the required state contribution, effective July 1, 2013. The rate applied to non-uniformed payroll (MoDOT, civilian patrol,

and MPERS) will increase from 50.92% to 54.25%. The rate applied to uniformed patrol payroll will increase slightly from 55.03% to 55.23%. The increase in the non-uniformed rate is due to the decrease in number of employees by MoDOT, thus causing a significant decrease in covered payroll dollars.

CONTACTING THE RETIREMENT SYSTEM'S MANAGEMENT

This financial report is designed to provide a general overview of the System's finances. Questions about this report or requests for additional financial information should be sent to:

MoDOT and Patrol Employees' Retirement System
PO Box 1930
Jefferson City, MO 65102-1930

MoDOT AND PATROL EMPLOYEES' RETIREMENT SYSTEM

Jefferson City, Missouri

STATEMENTS OF PLAN NET ASSETS

As of June 30, 2012 and 2011

	2012	2011
<u>ASSETS:</u>		
Cash	\$ 103,802	\$ 34,434
Receivables		
Contributions	6,563,911	6,057,876
Accrued Interest and Income	3,763,748	3,374,809
Investment Sales	6,675,816	28,250,357
Other	16,600	17,569
Total Receivables	<u>17,020,075</u>	<u>37,700,611</u>
Investments, at Fair Value		
Stocks and Rights/Warrants	\$ 454,126,321	\$ 503,897,859
Government Obligations	129,547,979	94,892,144
Corporate Bonds	39,478,021	28,671,607
Real Estate	150,601,879	143,696,195
Mortgages and Asset-Backed Securities	106,471,971	146,951,071
Absolute Return	135,413,759	153,035,433
Tactical Fixed Income	22,155,767	81,495,581
Short-Term Investments	52,458,363	33,267,053
Venture Capital & Partnerships	443,121,917	362,322,778
Total Investments	<u>1,533,375,977</u>	<u>1,548,229,721</u>
Invested Securities Lending Collateral	\$ 57,498,405	\$ 60,133,588
Prepaid Expenses	5,448	6,794
Capital Assets		
Land	84,000	84,000
Building	581,619	581,619
Furniture, Equipment and Software	3,423,799	3,414,235
Accumulated Depreciation	<u>(1,174,573)</u>	<u>(792,565)</u>
Net Capital Assets	<u>2,914,845</u>	<u>3,287,289</u>
TOTAL ASSETS	\$ 1,610,918,552	\$ 1,649,392,437
<u>LIABILITIES:</u>		
Long-Term Payable	\$ -	\$ 108,900
Short-Term Payable	108,900	397,500
Accounts Payable	1,377,330	1,559,815
OPEB Obligation	459,906	364,124
Security Lending Collateral	57,698,128	60,339,959
Investment Purchases	<u>9,870,742</u>	<u>30,941,463</u>
TOTAL LIABILITIES	\$ 69,515,006	\$ 93,711,761
NET ASSETS HELD IN TRUST FOR PENSION BENEFITS	\$ 1,541,403,546	\$ 1,555,680,676

See accompanying Notes to the Financial Statements.

MoDOT AND PATROL EMPLOYEES' RETIREMENT SYSTEM

Jefferson City, Missouri

STATEMENTS OF CHANGES IN PLAN NET ASSETS

For the Years Ended June 30, 2012 and 2011

	2012	2011
<u>ADDITIONS:</u>		
Contributions-Employer	\$ 164,880,140	\$ 150,022,169
Contributions-Employee	202,843	45,361
Contributions-Service Transfers from Other System	264,954	17,609,276
Contributions-Other	908,898	453,984
Total Contributions	<u>166,256,835</u>	<u>168,130,790</u>
Investment Income from Investing Activities		
Net Appreciation in Fair Value of Investments	\$ 24,342,528	\$ 271,818,669
Interest and Dividends	34,245,407	26,222,245
Less: Investment Expenses	16,706,404	18,538,828
Net Investment Income	<u>41,881,531</u>	<u>279,502,086</u>
Income from Securities Lending Activities		
Security Lending Gross Income	\$ 173,381	\$ 191,719
Less: Securities Lending Expenses (Income), net	(36,652)	81,753
Net Income from Securities Lending Activities	<u>210,033</u>	<u>109,966</u>
Other Income	<u>\$ 13,760</u>	<u>\$ 33,141</u>
NET ADDITIONS	\$ 208,362,159	\$ 447,775,983
<u>DEDUCTIONS:</u>		
Monthly Benefits	\$ 219,704,320	\$ 202,153,768
Administrative Expenses	<u>2,934,969</u>	<u>2,658,849</u>
TOTAL DEDUCTIONS	\$ 222,639,289	\$ 204,812,617
NET (DECREASE) INCREASE	\$ (14,277,130)	\$ 242,963,366
NET ASSETS HELD IN TRUST FOR PENSION BENEFITS		
Beginning of Year	<u>1,555,680,676</u>	<u>1,312,717,310</u>
End of Year	<u><u>\$ 1,541,403,546</u></u>	<u><u>\$ 1,555,680,676</u></u>

See accompanying Notes to the Financial Statements.

MISSOURI DEPARTMENT OF TRANSPORTATION AND HIGHWAY PATROL EMPLOYEES' RETIREMENT SYSTEM

NOTES TO THE FINANCIAL STATEMENTS

For the Years Ended June 30, 2012 and 2011

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

As established under Section 104.020 of the Revised Statutes of Missouri (RSMo), the Missouri Department of Transportation and Highway Patrol Employees' Retirement System (MPERS) is a body corporate and an instrumentality of the State of Missouri (State). Due to the nature of MPERS' reliance on funding from the Missouri Department of Transportation (MoDOT) and the Missouri State Highway Patrol (MSHP) and control of the overall plan document by the legislative and executive branches of state government, MPERS is considered a part of the State of Missouri financial reporting entity and is included in the State's financial reports as a component unit shown as a pension trust fund.

Note 1 (a) - Basis of Accounting

The financial statements were prepared using the accrual basis of accounting. Contributions are due to MPERS when employee services have been performed and paid. Contributions are recognized as revenues when due, pursuant to statutory requirements. Benefits are recognized when due and payable and expenses are recorded when the corresponding obligations are incurred. Dividend income is recognized when dividends are declared. Interest income is recognized when earned.

Note 1 (b) - Method Used to Value Investments

Investments are reported at fair value on a trade date basis. Bonds and stocks traded on a national or international exchange are valued at the reported sales price at current exchange rates. Mortgages are valued on the basis of future principal and interest

payments, and are discounted at prevailing interest rates for similar instruments. The fair value of real estate and timber investments are based on net asset value estimates provided by the general partners' administrators or portfolio managers, which are compared to independent appraisals. Investments that do not have an established market are reported at estimated fair value. The fair value of the absolute return, venture capital and partnership portfolios are based on valuations of the underlying companies as reported by the general partner or portfolio manager.

Note 1 (c) - Capital Assets

MPERS capitalizes assets with an expected useful life greater than one year and a cost greater than \$1,000. Capital assets are depreciated on the straight-line method over the estimated useful lives of the related assets. The estimated useful lives are as follows:

Furniture, Equipment and Software	3 – 10 years
Building and Improvements	30 years

Note 1 (d) - Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

NOTE 2 – PLAN DESCRIPTIONS AND CONTRIBUTION INFORMATION

MPERS is a body corporate and an instrumentality of the state as a multiple-employer, public employee retirement system with one plan that has three benefit structures known as the Closed Plan, the Year 2000 Plan, and the Year 2000 Plan-2011 Tier. The plan provides retirement, survivor, and disability

benefits for employees of MoDOT, MSHP, and MPERS' staff. The plan is administered in accordance with the requirements of a cost sharing, multiple-employer, public employee retirement plan under the Revised Statutes of Missouri. In MPERS are vested the powers and duties specified in sections

104.010 to 104.312, 104.601 to 104.805, and 104.1003 to 104.1093, RSMo., and such other powers as may be necessary or proper to enable it, its officers, employees, and agents to carry out fully and effectively all the purposes outlined pursuant to these sections. Responsibility for the operation and administration of the System is vested in the Board of Trustees. Detailed information regarding contributions can be found in Note 5.

Generally, all covered employees hired before July 1, 2000 are eligible for membership in the Closed Plan. All covered employees hired on or after July 1, 2000 and before January 1, 2011 are eligible for membership in the Year 2000 Plan. All covered employees hired on or after January 1, 2011 are eligible for membership in the Year 2000 Plan's 2011 Tier.

Membership in the Closed Plan, Year 2000 Plan, and 2011 Tier as of June 30

	2012			2012	2011
	Closed	Year 2000	2011 Tier	Total	Total
Retirees, Beneficiaries, and Disabilities					
Currently Receiving Benefits	5,093	2,975	0	8,068	7,792
Terminated Employees Entitled to But Not Yet Receiving Benefits	1,631	407	0	2,038	1,864
Active Employees					
Vested	4,019	2,213	0	6,232	6,568
Non-Vested	0	1,014	198	1,212	1,592
Total Membership	10,743	6,609	198	17,550	17,816

Closed Plan Description

Employees covered by the Closed Plan are fully vested for benefits upon receiving 5 years of creditable service. Under the Closed Plan, MoDOT and civilian employees may retire with full benefits upon the earliest of attaining:

- Age 65 with 4 or more years of creditable service (active);
- Age 65 with 5 or more years of creditable service (terminated & vested);
- Age 60 with 15 or more years of creditable service (active or terminated & vested); or
- "Rule of 80" – at least age 48 with sum of member's age and service equaling 80 or more (active or terminated & vested).

The following provisions apply for uniformed patrol members of the Closed Plan:

- Age 55 with 4 or more years of creditable service (active);
- Age 55 with 5 or more years of creditable service (terminated & vested);
- "Rule of 80" – at least age 48 with sum of member's age and service equaling 80 or more (active or terminated & vested); or
- Mandatory retirement at age 60 (active).

All non-uniformed members may retire early, with reduced benefits, at age 55 with at least 10 years of creditable service.

The base benefit in the Closed Plan is equal to 1.6% multiplied by the final average pay multiplied by years of creditable service. For members of the uniformed patrol, the base benefit is calculated by applying the same formula, then multiplying the product by 1.333333.

Retired uniformed members will receive an additional benefit of \$90 per month, plus cost-of-living adjustments (COLAs), until attainment of age 65. This payment, however, is reduced by any amount earned during gainful employment. This benefit is not available to uniformed members hired after January 1, 1995.

For members employed prior to August 28, 1997, COLAs are provided annually based on 80% of the change in the consumer price index for all urban consumers for the United States (CPI-U). The minimum rate is 4% and the maximum rate is 5%, until the cumulative amount of COLAs equals 65% of the original benefit. Thereafter, the 4% minimum rate is eliminated and the annual COLA rate will be equal to 80% of the increase in the CPI-U (annual maximum of 5%). For members employed on or after August 28, 1997, COLAs are provided annually

based on 80% of the increase in the CPI-U, up to a maximum rate of 5%.

The BackDROP is a payment option that is available to eligible members upon retirement. This option provides for a benefit to be calculated as if the member elected to retire at a previous date. If the BackDROP is elected, the monthly benefit payable on the actual retirement date is based on the benefit that would have been received by the member had he/she left employment and retired on the BackDROP date. In addition, the member will receive a lump sum payment equal to 90% of the life income annuity amount the member would have received during the BackDROP period. This lump sum amount includes any COLAs and other benefit increases; also, credit will be received for the unused sick leave balance as of the date of retirement.

The life income annuity payment option (which contains no provision for survivorship) and the life income with 60 or 120 month guaranteed payment options are available to all members. Joint and 50% or 100% survivor options are available if married at the time of retirement. In the Closed Plan, the reduction for the joint & 100% survivor option is based on the difference between the age of the member and the survivor. There is no reduction for the joint and 50% survivor option.

If a reduced joint and survivor option is chosen at the time of retirement and the spouse precedes the member in death, the benefit will revert back (pop-up) to a normal annuity.

Members may name a new spouse as beneficiary if:

- They were single at retirement and since married;
- They elected a spouse option at the time of retirement, the spouse preceded the member in death, and then a remarriage occurred.

The member has 1 year from the date of marriage to re-elect a payment option and name a new spouse.

All members who retire from active employment or long-term disability, or begin receiving normal or work-related disability benefits, on or after September 28, 1985, are provided a \$5,000 death benefit payable to designated beneficiaries.

Year 2000 Plan Description

Employees covered by the Year 2000 Plan are fully vested for benefits upon earning 5 years of creditable service. Under the Year 2000 Plan,

MoDOT and civilian employees may retire with full benefits upon the earliest of attaining:

- Age 62 and with 5 or more years of creditable service (active or terminated & vested);
- "Rule of 80" – at least age 48 with sum of member's age and service equaling 80 or more (active or terminated & vested).

The following provisions apply for uniformed patrol members of the Year 2000 Plan:

- "Rule of 80" – at least age 48 with sum of member's age and service equaling 80 or more (active or terminated & vested);
- Mandatory retirement at age 60 with 5 or more years of creditable service (active only).

All members may retire early with reduced benefits at age 57 with at least 5 years of creditable service.

The base benefit in the Year 2000 Plan is equal to 1.7% multiplied by the final average pay multiplied by years of creditable service. Members retiring under the Rule of 80, and uniform patrol members retiring at the mandatory retirement age (currently 60) with 5 years of creditable service, receive an additional temporary benefit until age 62. The temporary benefit is equivalent to 0.8% multiplied by final average pay multiplied by years of creditable service.

COLAs are provided annually based on 80% of the change in the CPI-U, up to a maximum rate of 5%.

The BackDROP is a payment option that may be available to members upon retirement. This option provides for a monthly benefit to be calculated as if the member elected to retire at a previous date. If the BackDROP is elected, the monthly benefit payable on the actual retirement date is based on the benefit that would have been received by the member had he/she left employment and retired on the BackDROP date. In addition, the member will receive a lump sum payment equal to 90% of the life income annuity amount the member would have received during the BackDROP period. This lump sum amount includes any temporary benefits, COLAs and other benefit increases; also, credit will be received for the unused sick leave balance as of the date of retirement.

The life income annuity payment option (with no provision for survivorship) and the life income with 120 or 180 months guaranteed payment options are available to all members. Joint and 50% or 100% survivorship options are available if married at the

time of retirement. The reduction for the joint and 50% or 100% survivor options is based on the member's age at retirement, as well as the age difference between the member and the survivor.

If a reduced joint and survivor option is chosen at the time of retirement and the spouse precedes the member in death, the benefit will revert back (pop-up) to a normal annuity.

Members may name a new spouse for survivor benefits if:

- They were single at retirement and since married;
- They elected a spouse option at the time of retirement, the spouse preceded the member in death, and then a remarriage occurred.

The member has 1 year from the date of marriage to re-elect the payment option and name a new spouse.

All members who retire from active employment or long-term disability, or begin receiving work-related disability benefits, on or after July 1, 2000, are provided a \$5,000 death benefit payable to designated beneficiaries.

Year 2000 Plan-2011 Tier Description

Employees covered by the 2011 Tier are fully vested for benefits upon earning 10 years of creditable service. Under the 2011 Tier, MoDOT and civilian employees may retire with full benefits upon the earliest of attaining:

- Age 67 and with 10 or more years of creditable service (active or terminated & vested);
- "Rule of 90" – at least age 55 with sum of member's age and service equaling 90 or more (active only).

Active MoDOT and civilian employees may retire early with reduced benefits at age 62 with at least 10 years of creditable service.

The following provisions apply for uniformed patrol members of the 2011 Tier:

- Age 55 and with 10 or more years of creditable service (active only);
- Mandatory retirement at age 60 with no minimum service amount (active only).

Terminated and vested uniformed patrol employees may retire at age 67 with 10 or more years of creditable service.

The base benefit in the 2011 Tier is equal to 1.7% multiplied by the final average pay multiplied by years of creditable service. Members retiring under the Rule of 90, and uniform patrol members retiring at the mandatory retirement age (currently 60) or at age 55 with 10 years of creditable service, receive an additional temporary benefit until age 62. The temporary benefit is equivalent to 0.8% multiplied by final average pay multiplied by years of creditable service.

COLAs are provided annually based on 80% of the change in the CPI-U, up to a maximum rate of 5%.

The life income annuity payment option (with no provision for survivorship) and the life income with 120 or 180 months guaranteed payment options are available to all members. Joint and 50% or 100% survivorship options are available if married at the time of retirement. The reduction for the joint and 50% or 100% survivor options is based on the member's age at retirement, as well as the age difference between the member and the survivor.

If a reduced joint and survivor option is chosen at the time of retirement and the spouse precedes the member in death, the benefit will revert back (pop-up) to a normal annuity.

Members may name a new spouse for survivor benefits if:

- They were single at retirement and since married;
- They elected a spouse option at the time of retirement, the spouse preceded the member in death, and then a remarriage occurred.

The member has 1 year from the date of marriage to re-elect the payment option and name a new spouse.

All members who retire from active employment or long-term disability, or begin receiving work-related disability benefits, on or after January 1, 2011, are provided a \$5,000 death benefit payable to designated beneficiaries.

Contributions

Beginning January 1, 2011, employee contributions of 4% of gross pay are required for those covered by the Year 2000 Plan-2011 Tier.

Employer contributions are determined through annual actuarial valuations. Administrative expenses

are financed through contributions from MoDOT, MSHP and MPERS, and investment earnings. MoDOT, MSHP and MPERS are required to make contributions to the plan based on the actuarially determined rate. Prior to August 13, 1976,

contributions by all plan members were required. Accumulated employee contributions made prior to that time, plus interest, were refunded to applicable members. Maximum contribution rates were eliminated August 13, 1976.

Schedule of Funded Status and Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Percent Funded (a/b)	Annual Covered Payroll (c)	UAAL Percentage of Covered Payroll ((b-a)/c)
6/30/2012	\$1,531,033,613	\$3,306,278,671	\$1,775,245,058	46.31%	\$341,637,559	519.63%

The schedules of funding progress, presented as required supplementary information (RSI) following the Notes to the Financial Statements, present multiyear

trend information about whether the actuarial values of plan assets are increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

Additional Information as of the June 30, 2012 Actuarial Valuation follows:

Valuation Date	6/30/2012
Actuarial Cost Method	Entry Age
Amortization Method	Closed, Level Percent of Payroll
Remaining Amortization Period	20 Years*
Asset Valuation Method	3-Year Smoothing
Actuarial Assumptions:	
Investment Rate of Return	8.25%
Projected Salary Increases	3.75% to 12.25%
COLAs	2.6% Compound
Price Inflation	3.75%

*single equivalent period

NOTE 3 – DEPOSITS AND INVESTMENTS

The Board of Trustees has established policies and procedures by which funds are invested by bank custodians and investment managers. Section 104.150, RSMo, provides the authority for the board to invest MPERS funds.

Note 3 (a) - Deposit and Investment Risk Policies

Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of the System's investment in a single issuer. Unless authorized under a separate Investment Management Agreement, it is the policy of the System to limit each equity manager to investing a maximum of 5% of the

market value of their portfolio in any single company and to limit fixed income managers to investing 3% of their portfolio into obligations of a single corporation. Fixed income obligations of the U.S. Government or U.S. Government agencies may be held in any amounts.

Investment Custodial Credit Risk

Custodial credit risk is an investment risk in that, in the event of the failure of the counterparty to a transaction, the System will not be able to recover the value of its investment or the collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered

in the name of the System, and are held by either:
a) the counterparty or b) the counterparty's trust department or agent but not in the System's name. It is the policy of the System to require that all investments be clearly marked as to ownership and, to the extent possible, shall be registered in the name of the System.

Cash Deposit Custodial Credit Risk

Cash deposit custodial credit risk is the risk that, in the event of the failure of depository financial institution, the System will not be able to recover deposits or will not be able to recover collateral securities that are in the possession of an outside party. Missouri state law requires that all public funds must be collateralized with acceptable securities having market values of at least 100% of the amount of funds on deposit (less any amount covered by FDIC insurance).

Market Risk

Market risk is the risk that the fair value of an investment will be adversely impacted due to a change in value of the underlying market. The three primary market risks prevalent in the System's investment portfolio are equity prices, interest rates, and foreign currencies. Equity risk is the risk that stock prices fall and/or the volatility in the equity market increases. Interest rate risk is the risk that fixed income securities (or any investment primarily valued on a yield basis) will drop in value due to an increase in interest rates. Currency risk is the risk that changes to foreign exchange rates will adversely impact the fair value of non-U.S. Dollar denominated assets. The System protects the portfolio against market risks by adopting a diversified asset allocation that limits the amount of exposure to each underlying market risk. Market risks are also controlled by monitoring the types, amounts, and degree of risk that each investment manager takes for their specific mandate.

Investment Credit Risk

Investment credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. Unless authorized under a separate Investment Management Agreement, it is the policy of the System to limit fixed income managers to purchasing securities that possess a minimum credit rating of "Baa" by Moody's and "BBB" by Standard & Poor's. Issues subsequently downgraded below these ratings must be brought to the attention of the Chief Investment Officer. Where counterparty risk is present, the System's investment managers seek to control credit risk through counterparty credit evaluations and approvals, counterparty credit limits and exposure monitoring procedures.

Note 3 (b) - Cash Deposits

Cash balances include short-term securities held by the custodial bank to meet future obligations and operating balances held by the depository bank. As of June 30, 2012 and 2011, MPERS had carrying amount of deposits of (\$1,073,610) and (\$1,246,566), respectively, and a bank balance of \$9 and \$4, respectively. The FDIC covered the bank balances. To maximize investment income, cash is invested in overnight repurchase agreements, thus causing the negative cash amounts disclosed above. The balances in these repurchase agreements at June 30, 2012 and 2011 were \$1,177,412 and \$1,281,000, respectively. As of June 30, 2012 and 2011, no investments were held as repurchase agreements that were uninsured or unregistered, with securities held by the counterparty or by its trust department or agent but not in MPERS' name.

Note 3 (c) - Concentrations

No investments in any one organization (other than those issued or sponsored by the U.S. government and those in pooled investments) represent 5% of plan net assets.

Note 3 (d) – Investments***Summary of Investments by Type at June 30***

	2012		2011	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Government Obligations	\$122,110,534	\$129,547,979	\$92,968,786	\$94,892,144
Corporate Bonds	38,384,346	39,478,021	27,995,407	28,671,607
Stock and Rights/Warrants	410,279,544	454,126,321	425,484,627	503,897,859
Real Estate	148,005,102	150,601,879	149,702,446	143,696,195
Mortgages & Asset-Backed Securities	116,279,532	106,471,971	152,578,823	146,951,071
Absolute Return	111,906,908	135,413,759	117,107,298	153,035,433
Tactical Fixed Income	14,586,515	22,155,767	55,537,756	81,495,581
Venture Capital & Partnerships	432,653,541	443,121,917	367,240,639	362,322,778
Short-Term Investments	53,633,283	53,635,775	34,552,499	34,548,053
Securities Lending Collateral	57,498,405	57,498,405	60,133,588	60,133,588
Total Investments	\$1,505,337,710	\$1,592,051,794	\$1,483,301,869	\$1,609,644,309

Reconciliation to Statement of Plan Net Assets:

Less: Repurchase Agreements	(\$1,177,412)	(\$1,281,000)
Less: Securities Lending Collateral	(57,498,405)	(60,133,588)
Investments per Statement of Plan Net Assets	\$1,533,375,977	\$1,548,229,721

Note 3 (e) – Investment Interest Rate Risk

The following table summarizes the maturities of government obligations, corporate bonds,

convertible corporate bonds, mortgages, asset-backed securities, and tactical fixed income which are exposed to interest rate risk.

Summary of Weighted Average Maturities

Investment Type	Fair Value	Investment Maturities (in years) as of 6/30/12			
		less than 1	1 - 5	6 - 10	more than 10
Asset-Backed Securities	\$4,083,276	\$0	\$1,011,637	\$1,215,908	\$1,855,731
Commercial Mortgage-Backed Securities	49,618,141	0	0	0	49,618,141
Corporate Bonds	18,584,780	0	3,783,207	2,536,257	12,265,316
Government Agencies	55,271,235	25,463,430	2,346,367	12,102,162	15,359,276
Government Bonds	10,371,603	0	0	650,241	9,721,362
Government Mortgage-Backed Securities	33,921,551	0	0	12,427,935	21,493,616
Index Linked Govt Bonds	36,044,114	0	10,847,520	16,942,097	8,254,497
Municipal/Provincial Bonds	27,861,026	5,001,700	1,688,912	4,278,850	16,891,564
Non-Govt Backed C.M.O.s	18,849,003	0	0	0	18,849,003
Total	\$254,604,729	\$30,465,130	\$19,677,643	\$50,153,450	\$154,308,506
Pooled Investments	43,049,008				
Grand Total	\$297,653,737				

Note 3 (f) – Investment Credit Ratings

The following table summarizes the credit ratings of the government obligations, corporate bonds,

mortgages and asset-backed securities, and tactical fixed income on the Statement of Plan Net Assets.

Summary of Credit Ratings

Investment Type	Quality Rating	6/30/2012 Fair Value	6/30/2011 Fair Value
Asset-Backed Securities	AAA	\$1,211,982	\$538,073
Asset-Backed Securities	AA	1,784,315	309,964
Asset-Backed Securities	A	409,230	1,544,685
Asset-Backed Securities	BB	0	182,215
Asset-Backed Securities	CC	242,114	293,800
Asset-Backed Securities	not rated	435,635	711,160
Commercial Mortgage-Backed Securities	AAA	5,068,397	7,090,663
Commercial Mortgage-Backed Securities	AA	0	440,130
Commercial Mortgage-Backed Securities	A	5,976,159	7,593,132
Commercial Mortgage-Backed Securities	BBB	6,050,936	7,128,251
Commercial Mortgage-Backed Securities	BB	2,129,918	15,715,073
Commercial Mortgage-Backed Securities	B	18,075,809	17,418,942
Commercial Mortgage-Backed Securities	CCC	813,272	2,885,946
Commercial Mortgage-Backed Securities	D	2,576,921	1,973,888
Commercial Mortgage-Backed Securities	not rated	8,926,729	10,084,789
Corporate Bonds	AA	792,531	3,051,986
Corporate Bonds	A	860,505	8,899,741
Corporate Bonds	BBB	2,913,716	14,754,574
Corporate Bonds	BB	967,174	1,154,266
Corporate Bonds	not rated	13,050,854	811,040
Government Agencies	AAA	0	11,903,475
Government Agencies	AA	39,620,880	0
Government Agencies	A	15,060,180	0
Government Agencies	Agency	590,175	0
Government Bonds	Agency	10,371,603	35,306,046
Government Mortgage-Backed Securities	Agency	33,921,551	59,526,955
Government Mortgage-Backed Securities	not rated	0	272,694
Index Linked Government Bonds	Agency	36,044,114	32,099,727
Municipal/Provincial Bonds	AAA	9,011,138	10,000,669
Municipal/Provincial Bonds	AA	10,109,656	2,047,776
Municipal/Provincial Bonds	A	940,024	2,119,671
Municipal/Provincial Bonds	not rated	7,800,208	1,414,781
Non-Government Backed C.M.O.s	AAA	6,715,580	1,819,835
Non-Government Backed C.M.O.s	AA	0	65,304
Non-Government Backed C.M.O.s	A	302,100	308,935
Non-Government Backed C.M.O.s	BBB	155,518	0
Non-Government Backed C.M.O.s	BB	732,819	934,959
Non-Government Backed C.M.O.s	CCC	1,458,536	2,358,302
Non-Government Backed C.M.O.s	CC	460,999	523,894
Non-Government Backed C.M.O.s	D	544,616	0
Non-Government Backed C.M.O.s	not rated	8,478,835	7,229,481
Pooled Investments	not rated	<u>43,049,008</u>	<u>81,495,581</u>
Total		<u>\$297,653,737</u>	<u>\$352,010,403</u>

Note 3 (g) – Investment Foreign Currency Risk***Exposure to Foreign Currency Risk as of June 30***

Foreign Currency	Cash and Equivalents	Equities	Real Estate/ Partnerships	6/30/12 Total	6/30/11 Total
Australian Dollar	\$35,862	\$837,099	\$0	\$872,961	\$1,333,506
British Pound Sterling	6,165	323,853	0	330,018	1,017,517
Canadian Dollar	2,280	430,335	0	432,615	109,846
Euro	73,978	548,237	16,473,905	17,096,120	14,613,111
Hong Kong Dollar	0	986,115	0	986,115	502,212
Japanese Yen	9,114	512,837	0	521,951	655,900
Philippine Peso	0	0	0	0	441,258
Singapore Dollar	2,976	432,967	0	435,943	2,614,048
Swedish Krona	0	0	0	0	372,527
Swiss Franc	432	0	0	432	0
Total Exposure Risk	\$130,807	\$4,071,443	\$16,473,905	\$20,676,155	\$21,659,925

Note 3 (h) – Securities Lending

In accordance with the Board of Trustees' investment policy, MPERS participates in a securities lending program. The Northern Trust Company administers the program. There are no restrictions on the amount of securities that may be lent.

Securities that may be loaned include U.S. government and agency securities, corporate equity, and fixed income securities. Collateral may include cash, U.S. government securities and irrevocable letters of credit. U.S. securities are loaned in exchange for collateral valued at 102% of the market value of the securities, plus any accrued interest. Non-U.S. securities are loaned in exchange for collateral valued at 105% of the market value of the securities, plus any accrued interest. On June 30, 2012 and 2011, MPERS had no credit risk exposure to borrowers, since the amount of collateral exceeded the amount of the loans.

Non-cash collateral cannot be pledged or sold unless the borrower defaults. The average term of

the System's loans was approximately 96 days and 85 days, as of June 30, 2012 and June 30, 2011, respectively. Cash open collateral is invested in a short-term investment pool, which had an interest sensitivity of 39 days and 21 days, as of June 30, 2012 and June 30, 2011, respectively. Cash collateral may also be invested separately in "term loans", in which case the investments match the loan term. These loans can be terminated on demand by either lender or borrower. There were no known violations of legal or contractual provisions, or borrower or lending agent default losses. There were no dividends or coupon payments owing on the securities lent. Securities lending earnings are credited on approximately the fifteenth day of the following month.

Indemnification deals with a situation in which a client's securities would not be returned due to the insolvency of a borrower and Northern Trust would fail to live up to its contractual responsibilities relating to the lending of those securities. Northern Trust's responsibilities include performing appropriate borrower and collateral investment credit analyses and demanding adequate types and levels of collateral.

The collateral held (including both cash collateral recognized in the Statement of Plan Net Assets and

non-cash collateral) was as follows at June 30:

Collateral Held

Investment Type	2012	2011
Equities	\$46,061,696	\$41,536,004
Government & government sponsored securities	10,674,816	11,786,835
Corporate bonds	961,616	7,017,120
	\$57,698,128	\$60,339,959

Note 3 (i) – Derivatives

A derivative financial instrument is an investment whose value depends on the values of one or more underlying assets, financial indexes, or commodity prices. These investments include futures contracts, options contracts, and forward foreign currency exchange. Derivative financial instruments involve credit risk and market risk, as described in Note 3 (a), in varying levels. The notional value related to these derivative instruments are generally not recorded on the

financial statements; however, the change in market value of these instruments is incorporated in performance. The notional/market value of \$21,061,606 for the various contracts in MPERS' portfolio as of June 30, 2012 is recorded in investments on the Statement of Plan Net Assets. The change in fair value of \$21,061,606 for the year ended June 30, 2012 is recorded in investment income on the Statement of Changes in Plan Net Assets. MPERS had no derivatives contracts in their portfolio as of June 30, 2011.

Investment Derivatives as of June 30, 2012

Type	Classification	Notional/ Market Value	Cost	Unrealized Gain (Loss)
Futures Contracts	Investments, at fair value	\$20,617,280	\$0	\$20,617,280
Swap Contracts	Investments, at fair value	444,403	0	\$444,403
Foreign Currency Forward Contracts	Investments, at fair value	(77)	0	(\$77)
		\$21,061,606	\$0	\$21,061,606

As of June 30, 2012, there is no counterparty risk associated with MPERS' derivatives exposures since all positions are traded on a regulated exchange.

NOTE 4 – RECEIVABLES

Receivables at June 30 consisted of the following:

Receivables

Type	2012	2011
Contributions-MoDOT	\$3,970,864	\$3,972,515
Contributions-MSHP Non-Uniformed	823,181	697,114
Contributions-MSHP Uniformed	1,749,387	1,370,534
Contributions-Retirement System	20,479	17,713
Commission Recapture	379	3,008
Securities Lending	16,221	14,477
Amounts Due From Members	0	84
Investment Interest & Income	3,763,748	3,374,809
Investment Sales	6,675,816	28,250,357
	<u>\$17,020,075</u>	<u>\$37,700,611</u>

NOTE 5 – CONTRIBUTIONS

MoDOT, the Highway Patrol, and MPERS make contributions to the System, as well as employees covered under the Year 2000 Plan-2011 Tier. MPERS permanent funding policy provides for actuarially determined employer contributions using the entry-age normal cost method on a closed group basis (consisting of normal cost and amortization of any unfunded accrued liabilities over a 30-year period, beginning July 1, 2006). (The objective is to reduce the period by one year each year.) A temporary accelerated policy has been adopted where the total contribution is based on entry-age normal cost plus a 15-year amortization period for unfunded retiree liabilities and a 30-year amortization period for other unfunded liabilities. Both amortization periods are closed periods starting July 1, 2010. This temporary accelerated policy was adopted by the MPERS' Board of Trustees on September 17, 2009 and will remain in effect until such time as the retiree liability becomes 100% funded or the permanent policy produces a higher contribution rate. Actuarially determined rates,

expressed as percentages of annual covered payroll, provide for amounts sufficient to fund those benefits designated by state statute to be funded in advance. Actuarial assumptions used to compute contribution requirements are the same as those used to compute the pension benefit obligation. The employee contribution rate for members of the Year 2000 Plan-2011 Tier is set by statute.

Required employer contributions totaling \$164,880,140 and \$150,022,169 for fiscal years 2012 and 2011, respectively, represent funding of normal costs and amortization of the unfunded accrued liability. Actual contributions made were 100% of required contributions. Contribution rates as determined by the System's actuary for the years ended June 30, 2012 and 2011 are shown below. The Board established actual rates to be the same as the actuarially determined rates.

Contribution Rates

2012			2011		
MoDOT, MPERS & Civilian Patrol	Uniformed Patrol	2011 Tier Employee	MoDOT, MPERS & Civilian Patrol	Uniformed Patrol	2011 Tier Employee
45.45%	58.63%	4.00%	39.46%	49.53%	4.00%

NOTE 6 – RELATED PARTY TRANSACTIONS

MoDOT rented office space from MPERS. The contract began in June 2008 and was effective through December 2011. This amounted to other income of

\$13,760 and \$33,141 during FY12 and FY11, respectively. As of January 1, 2012, MoDOT no longer rents the space.

NOTE 7 – PERSONAL SERVICES AND RETIREMENT PLAN

MPERS employed 14 full-time employees on June 30, 2012 and June 30, 2011. Six former MPERS employees have retired. Full-time employees are also members of the System. For these employees, MPERS accrued 45.45% of payroll during FY12, amounting to \$435,074, which was equal to the required

contribution. The net obligations for FY12 and the two preceding years are shown below. These amounts are recorded as both a contribution and administrative expense. Information regarding the retirement plans can be found in Notes 2 and 5.

Net Obligations

Year Ended June 30	Annual Required Contribution		Percent Contributed	Net Obligation
	Percent	Dollars		
2010 ⁽²⁾	31.40% ⁽¹⁾	282,762	100%	\$0
2011	39.46% ⁽¹⁾	365,073	100%	\$0
2012	45.45% ⁽¹⁾	435,074	100%	\$0

⁽¹⁾ The Annual Required Contribution rate is equal to the Actuarially Required Contribution rate.

⁽²⁾ New assumptions adopted.

NOTE 8 – OTHER POST-EMPLOYMENT BENEFITS (OPEB)

In addition to the retirement benefits described previously, MPERS provides a portion of health care insurance through the MoDOT and MSHP Medical and Life Insurance Plan (Insurance Plan) in accordance with Missouri State statutes. For the purpose of reporting OPEB costs and obligations in accordance with Governmental Accounting Standards Board (GASB) Statement 45, the Insurance Plan is considered an agent multiple-employer defined benefit plan administered by MoDOT. Medical insurance benefits are established by the Insurance Plan's Board of Trustees and are approved by the Missouri Highways and Transportation Commission. Benefits include general inpatient and outpatient medical services; mental, nervous and substance abuse care; and prescriptions. Eligible members are employees who retired from the System with a minimum of 5 years of service and who participate in the Insurance Plan. MoDOT issues a publicly available financial report that includes financial statements and required supplementary information for the Insurance Plan. Requests for this report should be addressed to MoDOT, Controller's Division, P.O. Box 270, Jefferson City, MO 65102.

Employer and member contributions are established by the Insurance Plan's Board of Trustees and are approved by the Missouri Highways and Transportation Commission. Premiums vary by coverage categories, which include retirees, certain disabled employees, spouses, certain dependents, and survivors of deceased employees and retirees. Employer and member required contribution rates average approximately 51% and 49%, respectively. The Insurance Plan is financed on a pay-as-you-go basis and is an internal service fund of MoDOT.

MoDOT's actuarial valuations for the Insurance Plan are performed biennially. The July 1, 2011 actuarial valuation was used for the FY12 financial statements and the July 1, 2009 actuarial valuation was used for the FY11 financial statements. For these periods, the annual required contribution (ARC) is equal to the annual OPEB cost. MPERS contributed \$26,739 in FY12 and \$31,619 in FY11 (21.82% and 27% of the ARC respectively), including implicit rate subsidies. Although funding is not related to payroll amounts, an equivalent Annual Required Contribution (ARC) rate would be 12.75% and 12.8% of annual covered payroll of \$960,456 and \$930,925 for FY12 and

FY11, respectively. MPERS' share of the net OPEB obligation was \$459,906 and \$364,124 at June 30, 2012 and 2011, respectively. MPERS' share of the

changes in the Insurance Plan's net OPEB obligation is shown below.

OPEB Cost and Obligation for the Year Ended June 30,

	2012	2011
Normal Cost	\$60,443	\$56,791
Amortization Payment	61,594	60,910
Interest	21,878	17,742
Adjustment to ARC	(21,394)	(16,248)
Annual OPEB Cost	122,521	119,195
Contributions	(26,739)	(31,619)
Increase in Net OPEB Obligation	95,782	87,576
Net OPEB Obligation - Beginning of Year	364,124	276,548
Net OPEB Obligation - End of Year	\$459,906	\$364,124

Because the Insurance Plan is an internal service fund of MoDOT, the Insurance Plan's assets have not been set aside. Because of this, there is no actuarial value of assets, so the entire actuarial accrued liability (AAL) is unfunded. Based on an

actuarial report dated July 1, 2011, MPERS' portion of the AAL is \$1,048,333, which is equal to MPERS' portion of the unfunded actuarial accrued liability (UAAL), as shown below.

Actuarial Accrued Liability

Actuarial Accrued Liability	\$1,048,333
Actuarial Value of Assets	0
Unfunded Actuarial Accrued Liability (UAAL)	<u>\$1,048,333</u>
Funded Ratio (Actuarial Value of Plan Assets/AAL)	0%
Covered Payroll	\$960,456
UAAL as a Percentage of Covered Payroll	109%

Actuarial valuations of an ongoing plan reflect long-term perspective and involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. These calculations are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future. A schedule of funding progress is presented as required supplementary information following the notes to the financial statements. As allowed by the GASB, this reporting requirement is being implemented prospectively. Data is not available for prior years. Over time, the schedule of funding progress will present trend information about whether the actuarial value of plan assets is

increasing or decreasing relative to the AAL for benefits.

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employers and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employers and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations. The actuarial methods and assumptions utilized in the valuation are shown on the following table.

Actuarial Methods and Assumptions

Actuarial Cost Method	Projected Unit Credit
UAAL Amortization Method	Level Dollar Amount
UAAL Amortization Period	30 Years
UAAL Amortization Approach	Open
Investment Return (Discount) Rate	4.5%
Healthcare Cost Trend Rate	8%, Decreasing To 5% After 2017

NOTE 9 – CAPITAL ASSETS

Summary of Changes in Capital Assets

	<u>6/30/2011</u> <u>Balance</u>	<u>Additions</u>	<u>Deletions/</u> <u>Retirements</u>	<u>6/30/2012</u> <u>Balance</u>
Land	\$84,000	\$0	\$0	\$84,000
Buildings	581,619	0	0	581,619
Furniture, Equipment and Software	3,414,235	9,564	0	3,423,799
Less: Accumulated Depreciation	(792,565)	(382,008)	0	(1,174,573)
Total	\$3,287,289	(\$372,444)	\$0	\$2,914,845

	<u>6/30/2010</u> <u>Balance</u>	<u>Additions</u>	<u>Deletions/</u> <u>Retirements</u>	<u>6/30/2011</u> <u>Balance</u>
Land	\$84,000	\$0	\$0	\$84,000
Buildings	581,619	0	0	581,619
Furniture, Equipment and Software	3,053,494	383,231	(22,490)	3,414,235
Less: Accumulated Depreciation	(442,587)	(372,468)	22,490	(792,565)
Total	\$3,276,526	\$10,763	\$0	\$3,287,289

NOTE 10 – OPERATING LEASES

As of June 30, 2012, MPERS is committed to two equipment and services related leases. The leases extend through May 2014. Expenditures for the years

ended June 30, 2012 and 2011 amounted to \$8,604 and \$25,884, respectively.

Future Minimum Lease Payments

Year Ending June 30

2013	\$8,604
2014	6,135
Total minimum lease payments	\$14,739

NOTE 11 – RISK MANAGEMENT

MPERS is exposed to various risks of loss related to natural disasters, asset theft or damage, errors and omissions, torts, and employee injuries.

MPERS has purchased commercial insurance related to capital asset loss and damage. Ancillary coverage provided through the property policy includes coverage for accounts receivable, loss of money and securities, employee dishonesty, and forgery and alterations. MPERS carries a \$2 million umbrella liability policy. MPERS has coverage through Missouri Highway and Transportation Commission's Self-Insurance Fund related to workers' compensation.

MPERS' has also purchased an executive risk insurance package that includes directors and officers liability (\$1 million aggregate coverage), employment practices liability (\$1 million aggregate coverage) and fiduciary liability coverage (\$5 million aggregate coverage). These coverages are inclusive of legal defense costs and each policy carries a \$25,000 deductible. The State's Legal Expense Fund covers all state employees and officers, and MPERS has purchased surety bonds for the director and staff. Settlements have not exceeded coverages for each of the past three fiscal years.

NOTE 12 – COMMITMENTS

As of June 30, 2012, MPERS has \$244,384,837 unfunded commitments in alternative investments.

REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF FUNDING PROGRESS

Year Ended June 30	Actuarial Asset Value	Accrued Liability – Entry Age	Unfunded Accrued Liability (UAAL)	Funded Ratio	Actuarial Covered Payroll ⁽¹⁾	UAAL as a Percentage of Covered Payroll
2007 ⁽²⁾	\$1,685,807,004	\$2,897,267,409	\$1,211,460,405	58.19%	\$365,012,472	331.90
2008	1,783,902,280	3,019,633,781	1,235,731,501	59.08%	375,984,141	328.67
2009	1,471,496,660	3,113,393,645	1,641,896,985	47.26%	379,542,506	432.60
2010 ⁽²⁾	1,375,844,573	3,258,866,925	1,883,022,352	42.22%	378,063,006	498.07
2011	1,427,290,718	3,297,589,869	1,870,299,151	43.28%	362,654,376	515.72
2012 ⁽²⁾	1,531,033,613	3,306,278,671	1,775,245,058	46.31%	341,637,559	519.63

⁽¹⁾ Values are estimated from contribution rate and amount.

⁽²⁾ New assumptions and/or methods adopted.

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Year Ended June 30	Uniformed Patrol			MoDOT, Civilian Patrol & MPERS		
	Annual Required Contribution	Percent		Annual Required Contribution	Percent	
	Percent	Dollars	Contributed	Percent	Dollars	Contributed
2007 ⁽²⁾	44.28 ⁽¹⁾	\$27,802,932	100	31.10 ⁽¹⁾	\$93,991,526	100
2008	42.61	29,147,429	100	31.01	95,368,363	100
2009	40.22	27,298,132	100	30.72	95,759,843	100
2010 ⁽²⁾	39.95	26,936,683	100	31.40	97,540,023	100
2011	49.53	33,688,925	100	39.46	116,263,825	100
2012 ⁽²⁾	58.63	42,750,061	100	45.45	122,134,406	100

⁽¹⁾ The ARC is the rate adopted by the Board of Trustees. This rate exceeded the actuarially calculated rate.

⁽²⁾ New assumptions and/or methods adopted.

NOTES TO THE SCHEDULES OF TREND INFORMATION

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation Date.....	June 30, 2012
Actuarial Cost Method	Entry Age
Amortized Method	Level Percent of Payroll
Remaining Amortization Period	20 Years (single equivalent period)
Amortization Approach	Closed
Asset Valuation Method	3-Year Smoothing
Actuarial Assumptions:	
Investment Rate of Return	8.25%
Projected Salary Increase	3.75% to 12.25%
Cost-of-Living Adjustments.....	2.6% Compound
Includes Wage Inflation at.....	3.75%

REQUIRED SUPPLEMENTARY INFORMATION

OTHER POST-EMPLOYMENT BENEFIT PLAN SCHEDULE OF FUNDING PROGRESS FOR MODOT AND MSHP MEDICAL AND LIFE INSURANCE PLAN

Year Ended June 30	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)
2008	\$0	\$1,178,303	\$1,178,303	0%
2010 ⁽¹⁾	0	1,036,681	1,036,681	0%
2012	0	1,048,333	1,048,333	0%

⁽¹⁾New assumptions adopted.

Actuarial valuations are performed biennially. The July 1, 2011 actuarial valuation was used for FY12 financial statements, the July 1, 2009 actuarial valuation was used for FY10 and FY11 financial statements, and the July 1, 2007 actuarial valuation was used for FY08 and FY09 financial statements. As allowed by the GASB, this reporting requirement is being implemented prospectively, as prior years' data is not available.

Because this plan is an internal service fund of MoDOT, assets have not been set aside. Therefore, there is no actuarial value of assets. This results in a calculated funded ratio of zero percent.

NOTES TO THE SCHEDULE OF TREND INFORMATION

The information presented in the required supplementary schedule was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows:

Valuation Date.....	July 1, 2011
Actuarial Cost Method	Projected Unit Credit
UAAL Amortization Method	Level Dollar Amount
UAAL Amortization Period	30 Years
UAAL Amortization Approach.....	Open
Investment Return (discount) Rate.....	4.5%
Healthcare Cost Trend Rate.....	8.0%, Decreasing to 5% after 2017

MoDOT AND PATROL EMPLOYEES' RETIREMENT SYSTEM

SCHEDULES OF ADMINISTRATIVE EXPENSES FOR THE YEARS ENDED JUNE 30, 2012 AND 2011

	<u>2012</u>	<u>2011</u>
<u>Personal Services:</u>		
Salary Expense	\$1,022,080	\$946,572
Employee Benefit Expense	<u>799,599</u>	<u>672,455</u>
Total Personal Services	\$1,821,679	\$1,619,027
<u>Professional Services:</u>		
Actuarial Services	\$113,141	\$87,714
Actuarial Audit Services	50,000	0
Audit Expense	30,900	29,400
Disability Program	13,120	15,104
Consultant Fees	56,401	115,022
Fiduciary Insurance	112,280	53,999
Other	<u>31,744</u>	<u>15,403</u>
Total Professional Services	\$407,586	\$316,642
<u>Miscellaneous:</u>		
Depreciation	\$382,008	\$372,468
Meetings/Travel/Education	85,752	67,366
Equipment/Supplies	38,429	39,127
Printing/Postage	80,238	67,263
Bank Service Charge	8,116	8,105
Building Expenses	43,525	102,238
Other	<u>67,636</u>	<u>66,613</u>
Total Miscellaneous	\$705,704	\$723,180
Total Administrative Expenses	<u>\$2,934,969</u>	<u>\$2,658,849</u>

MoDOT AND PATROL EMPLOYEES' RETIREMENT SYSTEM

SCHEDULES OF INVESTMENT EXPENSES FOR THE YEARS ENDED JUNE 30, 2012 AND 2011

	2012	2011
Investment Income Expenses:		
Management and Performance Fees		
Aberdeen Asset Management	\$73,610	\$159,623
ABRY Partners	334,037	270,974
Acadian Asset Management	684,292	870,319
AEW	252,917	255,266
Albourne	240,000	240,000
Algert Coldiron Investments (ACI)	0	14,475
American Infrastructure MLP	204,949	222,570
Anchorage Capital	334,769	140,724
Apollo Real Estate	298,694	327,364
AQR Capital Management	288,319	266,831
Artio (formerly Julius Baer)	306,437	492,819
Audax Group	99,096	143,185
Barclays Global Investors	195,485	461,695
Black River	70,482	222,249
Brevan Howard	725,868	465,074
Bridgewater Associates	1,221,976	1,922,917
CBRE	361,090	116,440
Cevian	241,340	0
Clifton	85,794	47,079
Colony Capital	52,450	2,500
Concordia	0	5,777
CQS Management	0	66,447
CarVal Investors (CVI)	408,240	375,303
Deephaven Capital Management	3,574	10,155
EIF Management	127,507	152,625
Enhanced Investment Technologies (INTECH)	327,405	329,855
Golub	62,674	0
Grove Street Advisors	2,250,000	3,000,000
GSO	71,482	0
ING Clarion	557,535	447,573
Luxor	158,253	416,354
Natural Gas Partners	351,021	397,817
Och-Ziff Real Estate	128,876	145,313
Ospraie	528,048	262,121
Paulson and Co.	65,358	635,527
PFM	135,769	0
Pinnacle Associates	432,231	304,832
Principal Global Investors	854,471	750,355
RMK Timberland	119,973	153,096
Rothschild Asset Management	82,235	87,590
Silchester International Investors	530,853	597,271
Stark Investments (Shepard)	70,704	151,430
Stellium	604,864	0
Structured Portfolio Management (SPM)	568,436	930,038
Taconic	303,494	683,004
Tortoise	386,907	272,788
Urdang	140,452	188,051
ValueAct	177,770	0
Vectis	187,500	187,500
Vicis Capital	0	19,834
Walker Smith	141,988	0
Western Asset Management Company	282,419	479,154
Total Management and Performance Fees	\$16,131,644	\$17,691,914
Investment Custodial Fee	101,295	115,915
Performance Management	95,708	84,837
General Consultant (monitoring) Fee	312,000	225,000
Other Investment Expenses	65,757	421,162
Total Investment Income Expenses	\$16,706,404	\$18,538,828
Securities Lending Expenses:		
Borrower Rebates (Refunds)	(\$126,553)	\$34,609
Bank Fees	89,901	47,144
Total Securities Lending Expenses (Income)	(\$36,652)	\$81,753

MoDOT AND PATROL EMPLOYEES' RETIREMENT SYSTEM

SCHEDULES OF CONSULTANT AND PROFESSIONAL EXPENSES FOR THE YEARS ENDED JUNE 30, 2012 AND 2011

	<u>2012</u>	<u>2011</u>
Actuarial Services	\$113,141	\$87,714
Actuarial Audit Services	50,000	0
Audit Services	30,900	29,400
Disability Administrative Services	13,120	15,104
Legislative Consultant	26,401	26,500
Board Governance Consultant	0	52,896
Customer Service and Benefit Delivery	10,000	29,626
Insurance Consultant	6,000	6,000
Other Consultant Fees	14,000	0
Fiduciary Insurance	112,280	53,999
Other	<u>31,744</u>	<u>15,403</u>
Total Consultant and Professional Expenses	<u><u>\$407,586</u></u>	<u><u>\$316,642</u></u>

**MISSOURI DEPARTMENT OF TRANSPORTATION
AND HIGHWAY PATROL EMPLOYEES'
RETIREMENT SYSTEM**

**COMMUNICATION OF
AUDIT RELATED MATTERS**

JUNE 30, 2012

November 20, 2012

To the Audit Committee of the Board of Trustees of the
Missouri Department of Transportation and
Highway Patrol Employees' Retirement System

We have audited the financial statements of the Missouri Department of Transportation and Highway Patrol Employees' Retirement System (the System) for the year ended June 30, 2012, and have issued our report thereon dated November 20, 2012. Professional standards require that we provide you with information about our responsibilities under U.S. generally accepted auditing standards, as well as certain information related to the planned scope and timing of our audit. We have communicated such information in our discussion of planning matters in August 2012. Professional standards also require that we provide you with the following information related to our audit.

Our Responsibility under U.S. Generally Accepted Auditing Standards

As stated in our engagement letter dated June 11, 2012, our responsibility, as described by professional standards, is to express an opinion about whether the financial statements prepared by management with your oversight are fairly presented, in all material respects, in conformity with U.S. generally accepted accounting principles. Our audit of the financial statements does not relieve you or management of your responsibilities.

Other Information in Documents Containing Audited Financial Statements

We have been advised that the System's audited financial statements will be reproduced in the System's Comprehensive Annual Financial Report (CAFR). Our responsibility for the other information in the CAFR does not extend beyond the financial information identified in the audited financial statements and, as auditors, we do not have an obligation to perform any procedures to corroborate other information contained in the CAFR.

We will compare the financial statements as prepared for the CAFR for agreement with our issued audit report to determine the manner of presentation is not misleading.

Planned Scope and Timing of the Audit

An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements; therefore, our audit involved judgment about the number of transactions to be examined and the areas to be tested.

Our audit included obtaining an understanding of the System and its environment, including internal control, sufficient to assess the risks of material misstatement of the financial statements and to design the nature, timing, and extent of further audit procedures. Material misstatements may result from (1) errors, (2) fraudulent financial reporting, (3) misappropriation of assets, or (4) violations of laws or governmental regulations that are attributable to the System or to acts by management or employees acting on behalf of the System.

We performed the audit according to the planned scope and timing previously communicated to the System during our preliminary audit meetings.

Significant Audit Findings

Qualitative Aspects of Accounting Practices

Management is responsible for the selection and use of appropriate accounting policies. The significant accounting policies used by the System are described in Note 1 to the financial statements. No new accounting policies were adopted and the application of existing policies was not changed during the year ended June 30, 2012. We noted no transactions entered into by the System during the year for which there is a lack of authoritative guidance or consensus. All significant transactions have been recognized in the financial statements in the proper period.

In June 2012, the Governmental Accounting Standards Board (GASB) issued Statements No. 67 *Financial Reporting for Pension Plans* which revises existing standards of financial reporting for pension plans and No. 68 *Accounting and Financial Reporting for Pensions* which improves accounting and financial reporting by state and local governments for pensions. GASB No. 67 applies to the System and will be effective in fiscal years beginning after June 15, 2013. GASB No. 68 applies to the employers that participate in the System and will be effective in fiscal years beginning after June 15, 2014.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. The most sensitive estimates affecting the financial statements were: fair value of investments, useful lives of capital assets, and plan funding and related disclosures.

Management's estimate of the fair value of investments is based on quoted market prices; input from outside investment managers, consultants, and general partners; and current economic conditions. Estimated useful lives of capital assets are generally based on past experience with similar assets. Plan funding and related disclosures are based on actuarial methods and assumptions determined in consultation with the System's actuary. We evaluated the key factors and assumptions used to develop those estimates in determining that they are reasonable in relation to the financial statements taken as a whole.

The disclosures in the financial statements are neutral, consistent and clear. Certain financial statement disclosures are particularly sensitive because of their significance to the financial statement users. The most sensitive disclosures affecting the financial statements were investments and the funded status of the plan.

Difficulties Encountered in Performing the Audit

We are pleased to report that we encountered no difficulties in dealing with management in performing and completing our audit. All system personnel cooperated with us fully during the conduct of our audit.

Corrected and Uncorrected Misstatements

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are trivial, and communicate them to the appropriate level of management. We noted no adjustments as a result of audit procedures that were material, either individually or in the aggregate, to the financial statements taken as a whole.

Disagreements with Management

For purposes of this letter, professional standards define a disagreement with management as a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor's report. We are pleased to report that no such disagreements arose during the course of our audit.

Management Representations

We have requested certain representations from management that are included in the management representation letter dated November 20, 2012.

Management Consultations with Other Independent Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a "second opinion" on certain situations. If a consultation involves application of an accounting principle to the System's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Other Audit Findings or Issues

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as the System's auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

Other Matters

With respect to the supplementary information accompanying the financial statements, we made certain inquiries of management and evaluated the form, content, and methods of preparing the information to determine the information complies with U.S. generally accepted accounting principles, the method of preparation has not changed from the prior period, and the information is appropriate and complete in relation to our audit of the financial statements. We compared and reconciled the supplementary information to the underlying accounting records used to prepare the financial statements or to the financial statements themselves.

We will be pleased to discuss these or any other matters deemed appropriate at your convenience. This information is intended solely for the use of the Board of Trustees and management of the System and is not intended to be and should not be used by anyone other than these specified parties.

We thank the System's management and staff for their assistance during the course of our audit.

Sincerely,



WILLIAMS-KEEPERS LLC

**MISSOURI DEPARTMENT OF TRANSPORTATION
AND HIGHWAY PATROL EMPLOYEES'
RETIREMENT SYSTEM**

MANAGEMENT LETTER

JUNE 30, 2012



CERTIFIED PUBLIC ACCOUNTANTS & CONSULTANTS

2005 West Broadway, Suite 100, Columbia, MO 65203
OFFICE (573) 442-6171 FAX (573) 777-7800

3220 West Edgewood, Suite E, Jefferson City, MO 65109
OFFICE (573) 635-6196 FAX (573) 644-7240

www.williamskeepers.com

November 20, 2012

To Management and the Board of Trustees of the
Missouri Department of Transportation and
Highway Patrol Employees' Retirement System

In planning and performing our audit of the financial statements of the Missouri Department of Transportation and Highway Patrol Employees' Retirement System (the System) for the year ended June 30, 2012, in accordance with U.S. generally accepted auditing standards, we considered the System's internal control over financial reporting (internal control) as a basis for designing our auditing procedures for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, we do not express an opinion on the effectiveness of the System's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency, or combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the Systems' financial statements will not be prevented, or detected and corrected, on a timely basis. A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph and was not designed to identify all deficiencies in internal control that might be significant deficiencies or material weaknesses and, therefore, there can be no assurance that all such deficiencies have been identified. We did not identify any deficiencies in internal control that we consider to be material weaknesses.

However, during our previous audits, we became aware of certain deficiencies in internal control that we consider to be control deficiencies. The items listed below summarize our comments and suggestions regarding those deficiencies.

PRIOR YEAR RECOMMENDATIONS PARTIALLY IMPLEMENTED

Information technology - MoDOT and MSHP services

We noted the System utilizes information technology (IT) services from the Missouri Department of Transportation (MoDOT) and the Missouri State Highway Patrol (MSHP). As part of its monitoring efforts, the System should ensure that IT internal controls at MoDOT and MSHP are suitably designed and operating effectively. While the System has obtained an understanding of IT internal controls through inquiry and observation, no testing of these controls had been performed to evaluate the on-going effectiveness of the IT controls at MoDOT and MSHP.

We recommended the System consider adding and implementing a right to audit clause within the operating agreements that are currently in place with MoDOT and MSHP to allow the System to monitor (either internally or through an external vendor) the on-going effectiveness of IT controls. In lieu of this, the System could consider the cost/benefit of bringing such functions in-house to eliminate the need to rely on third parties.

Information technology - Security reviews

We noted the System has not had IT internal audits or information security reviews conducted on a periodic basis. During 2010, a new pension software system, Pension Gold, was implemented. Because the System is heavily reliant on this web-based application which has internet-facing functionality, there is greater importance to perform regular reviews of IT security. Without performing audits of the operational and technical functions of IT, the System could be at risk for procedures or controls being circumvented or not followed resulting in internal system or data compromise. We further noted there is no one on staff at the System that is responsible for handling the IT function.

We recommended the System consider establishing a formal program of tests to be conducted on critical hardware devices and software applications, including an external vulnerability assessment of the Pension Gold application. We further recommended the System establish internal procedures to continuously monitor IT security. The hiring of an individual to be responsible for the IT function would assist in this process.

MANAGEMENT'S RESPONSE:

MPERS sent out a request for proposal (RFP) for the performance of an IT Architecture Assessment in January 2012 to 12 prospective bidders and received 5 responses. A contract was awarded to BSW. BSW conducted the assessment and presented the results to the Audit Committee in August 2012. Based on BSW's observations and corresponding recommendations, along with the ensuing discussion on related risks associated with the noted problem areas, the Audit Committee agreed to proceed with this project. They requested BSW provide a proposal for services to facilitate the necessary actions to complete the next steps and outline options to simplify and improve the safety and reliability of MPERS' IT services. The proposal for additional technology advisory services was approved by the full Board of Trustees at the September meeting. BSW started this process October 1, 2012, and anticipates completing the assessment by the end of December 2012.

We will be pleased to discuss these or any other matters deemed appropriate at your convenience. This report is intended solely for the information and use of the System's Board of Trustees, management, and others within the System and is not intended to be and should not be used by anyone other than these specified parties.

We thank System officials and employees for their assistance during the course of our audit and appreciate the opportunity to be of service.

Sincerely,

A handwritten signature in black ink that reads "Williams-Keepers LLC". The script is cursive and fluid, with the letters "W", "K", and "L" being particularly prominent.

WILLIAMS- KEEPERS LLC